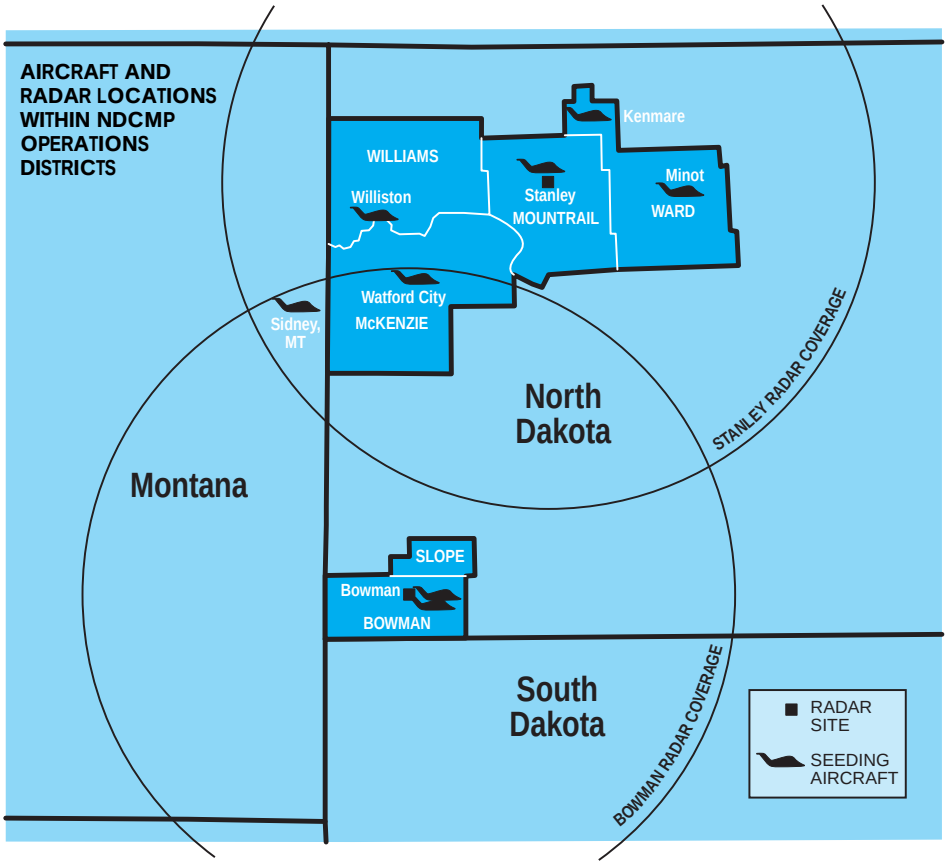
THE
ATMOSPHERIC RESERVOIR
Examining the Atmosphere and Atmospheric Resource Management

2002 NDCMP comes to a close



By Darin Langerud

Cloud seeding operations over 6.7 million acres of western North Dakota have ended for another season. The North Dakota Cloud Modification Project (NDCMP) concluded at midnight on August 31 for Bowman, McKenzie, Mountrail, part of Slope, and Williams counties. Ward County extended their operations through September 16 due to a late harvest.

Seeding operations for hail suppression and rainfall enhancement have been conducted over parts of western North Dakota for more than 40 years. The most recent evaluations of the program's effectiveness show a 45 percent reduction in crop-hail losses, a 7-15 percent increase in rainfall, a 5.9 percent increase in wheat yields, and a benefit to cost ratio of 40 to 1. Cloud seeding is accomplished through the introduction of microscopic ice-producing particles into clouds, thereby speeding the precipitation formation process.

This year the eight NDCMP aircraft logged 830 flight hours. Hail suppression flights accounted for 581 hours, with 121 hours for rain enhancement, and 128 flown for reconnaissance and other operational purposes. June brought 23 days with seeding or reconnaissance flights, while July had 19 days, August, 17 days, and September brought two. A total of 570 pounds of silver iodide was released either through combustion of acetone-based seeding solution, burn-in-place flares, or ejectable flares. Dry ice pellets totaling 4,065 pounds were released in-cloud by the top-seeding aircraft. The use of seeding agents in these amounts has been found to be safe for the environment. Numerous environmental reviews have looked at silver iodide use in the context of cloud seeding and have found no negative impacts.

The North Dakota Atmospheric Resource Board (NDARB) has applied for federal funds through the U.S. Bureau of Reclamation's Weather Damage Modification Program (WDMP). The WDMP will fund cloud seeding research and evaluation activities through a peer-reviewed application process. If funded, North Dakota's proposal would fund the analysis of rainfall and radar data and the collection of additional atmospheric data. The bottom-line goal of this research is to analyze the effect of the current program and improve cloud seeding technology and operations. More information will be provided in future *Atmospheric Reservoir* columns as the process moves forward. ■

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